

CLAIMS

1 1. An electrical machine, such as a three phase current
2 generator and a starter generator, comprising a stator housing; a shaft
3 supported in said stator housing and carrying an impeller; a stator plate pack
4 mounted on said stator housing and surrounding said impeller; means
5 forming a stator and a rotor chamber and a space which is separated from
6 said chambers in a cooling medium tight manner; a cooling medium pump
7 which is driven by a shaft for heating a cooling medium, said cooling medium
8 pump being arranged in said space; a magnetic coupling through which said
9 cooling medium pump is drivable and which transmits a driving moment from
10 said shaft to said cooling medium pump, said magnetic coupling having a
11 driving part and a driven part which are separated from one another by a
12 magnetically inactive and electrically poorly conductive wall.

1 2. An electrical machine as defined in claim 1, wherein said
2 driven part is formed as a magnetic disk with permanent magnets.

1 3. An electrical machine as defined in claim 1, wherein said
2 magnetic coupling is formed as an asynchronous drive, one of said parts
3 being formed as an exciter while the other of said parts is formed as an
4 electrically highly conductive disk.

1 4. An electrical machine as defined in claim 3, wherein said
2 driving part is formed as said exciter and said driven part is formed as said
3 electrically highly conductive disk.

1 5. An electrical machine as defined in claim 3, wherein said
2 driving part is formed as an electrically highly conductive disk, while said
3 driven part is formed as an exciter.

1 6. An electrical machine as defined in claim 3, wherein said
2 exciter is formed as an element selected from the group consisting of an
3 electromagnet element and a permanently magnetic element.

1 7. An electrical machine as defined in claim 6, wherein said
2 electromagnet has a coil with a current which is controllable or regulatable.

1 8. An electrical machine as defined in claim 1; and further
2 comprising an outer housing which surrounds said stator housing so that a
3 part of a cooling medium circulation is provided between said stator housing
4 and said outer housing.

1 9. An electrical machine as defined in claim 8, wherein said
2 outer housing has a cooling medium inlet which is central to said shaft and
3 in which a first bearing point for a pump shaft is located.

1 10. An electrical machine as defined in claim 9; and further
2 comprising means forming a stator and rotor chamber side wall region which
3 separates said driving part and in which a second bearing point for said
4 pump shaft is located.

1 11. An electrical machine as defined in claim 10, wherein said
2 wall region is a part of a housing bottom which closes said stator and rotor
3 chamber and receives a bearing.

1 12. An electrical machine as defined in claim 10, wherein said
2 wall region is a part of a wall part which is releasable independently of a
3 bearing of said shaft.